

REMARKS

Claims 25-35 are pending. Claims 24, 27, 30 and 34 are amended for clarity.

The Specification is amended to correct a clerical error.

The Examiner objected Applicant's Specification for failing to include Figure 8D in paragraph [0015]. Accordingly, Applicant has amended paragraph [0015] to reference Figure 8D.

The Examiner objected to Claims 30 and 33-34 for various informalities. As amended, the Examiner's objections of these claims are believed overcome.

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,896,301 ("Barrientos"). The Examiner states:

A method for selecting nodes to be optimized, comprising putting nodes into a plurality of criticality bins, wherein each criticality bin stores nodes with a corresponding range of minimum path slacks and a corresponding range of maximum path slack [column 21, line 43-column 22, line 32].

Applicant respectfully traverses the Examiner's rejection. As amended, Applicant's Claim 24 recites putting nodes into criticality bins:

24. A method for selecting nodes in a electronic circuit to be optimized, comprising:

examining each node according to a minimum path slack and a maximum path slack associated with the node; and

putting nodes into a plurality of criticality bins according to the minimum path slacks and maximum path slacks associated with the nodes,

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wherein each criticality bin is defined by a range of minimum path slacks or a range of maximum path slacks.

(emphasis added)

The purpose of putting nodes into bins is provided in the preamble of Claim 24 – i.e., to select nodes to be optimized. Optimization of nodes in the criticality bins is discussed, for example, at Applicant's Specification, at page 11, paragraph [0053]. Contrary to the Examiner's contention, Barrientos neither discloses nor suggests Applicant's Claim 24. Rather than disclosing putting nodes into bins, col. 21, line 43 to col. 22, line 32 of Barrientos discloses putting a count of the number of paths into bins:

... The spreadsheet engine 12 separates the slack times into an array of bins of a predetermined number. In the histogram shown in FIG. 6 the number of bins is 25. Each bin contains a count of the number of paths whose slack time falls within the range of the bin. Each bin has a range the size of which is the total range calculated in step 224 divided by the number of bins. ... One array of bins is for passing paths and the other array of bins for failing paths. The spreadsheet engine 12 initializes all the bins to a count of zero in step 228. ...

(emphasis added; Barrientos, at col. 21, lines 51-67)

A count of paths would not allow nodes to be selected for optimization. Thus, Barrientos discloses neither the limitations of Claim 24 nor its stated purpose. Accordingly, Applicant respectfully submits that Claims 24 is allowable over Barrientos. Reconsideration and allowance of Claim 24 are therefore requested.

The Examiner rejected Claim 24 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,449,756 ("Malik"). The Examiner states:

A method for selecting nodes to be optimized,

comprising putting nodes into a plurality of criticality bins, wherein each criticality bin stores nodes with a corresponding range of minimum path slacks and a corresponding range of maximum path slack [column 5, lines 21-29].

Applicant respectfully traverse the Examiner's rejection. Claim 24 recites that each node is associated with both a minimum path slack and a maximum path slack:

24. A method for selecting nodes in a electronic circuit to be optimized, comprising:

examining each node according to a minimum path slack and a maximum path slack associated with the node; and

putting nodes into a plurality of criticality bins according to the minimum path slacks and maximum path slacks associated with the nodes, wherein each criticality bin is defined by a range of minimum path slacks or a range of maximum path slacks.

(emphasis added)

As explained in Applicant's Specification, in paragraphs [0031] to [0033], on pages 6-7, the minimum path slack and the maximum path slack indicate timing violations, and therefore pin-points the nodes that are to be optimized. Contrary to the Examiner's contention, at col. 5, lines 21-29, Malik neither discloses nor suggests Applicant's Claim 24. Unlike Claim 24, Malik merely discloses putting nodes into bins based on slack, without regard to criticality:

In accordance with a third exemplary alternative, each node on the timing graph is part of a slack bin based on its slack value. The range of slack values is partitioned into a number of bins (the number of bins determined experimentally). Each bin consists of all the nodes within a certain slack range. Further, within each bin, the nodes that are in a contiguous section in the circuit may be stored

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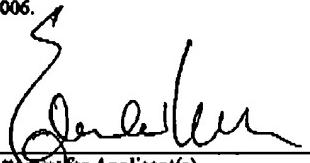
together in a node section (possibly stored as a list). This structure is illustrated in FIG. 6.

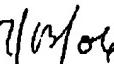
Malik's slacks are neither disclosed nor suggested to be the "maximum path slack" or "minimum path slack" recited in Claim 24. Therefore, Applicant respectfully submits that Claim 24 is allowable over Malik. Reconsideration and allowance of Claim 24 are therefore requested.

The Examiner indicated allowable subject matter in Claims 25-35.

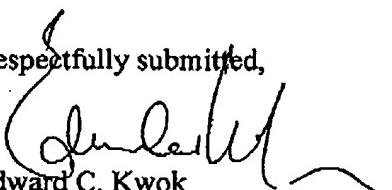
Accordingly, all pending claims (i.e., Claims 24-35) are allowable. If the Examiner has any questions or concerns, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicant.

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